Property Data

Envalior
Imagine the Future

Stanyl® HFX33S

PA46–GF20 FR(40)

20% Glass Reinforced, High Flow, Halogen free and free of red phosphorous

Print Date: 2024–12–10

Stanyl® HFX33S is an electro–friendly & halogen–free flame–retarded high heat polyamide that offers an excellent combination of high CTI, flow and weld–line strength. HFX–grades are often used in connectors such as USB type C.

PROPERTIES	TYPICAL DATA	UNIT	TEST METHOD
RHEOLOGICAL PROPERTIES	DRY / COND		
Molding shrinkage (parallel)	0.4 / *	%	ISO 294–4
Molding shrinkage (normal)	1.5 / *	%	ISO 294–4
MECHANICAL PROPERTIES	DRY / COND		
Tensile modulus	7800 / 4800	MPa	ISO 527–1/–2
Tensile modulus (120°C)	4000 / –	MPa	ISO 527–1/–2
Tensile modulus (160°C)	3500	MPa	ISO 527–1/–2
Stress at break	120 / 80	MPa	ISO 527–1/–2
Stress at break (120°C)	67 / –	MPa	ISO 527–1/–2
Stress at break (160°C)	58	MPa	ISO 527–1/–2
Strain at break	2.8 / 4	%	ISO 527–1/–2
Strain at break (120°C)	5.1 / –	%	ISO 527–1/–2
Strain at break (160°C)	5.9	%	ISO 527–1/–2
Flexural modulus	7000 / 4600	MPa	ISO 178
Flexural modulus (120°C)	4000	MPa	ISO 178
Flexural modulus (160°C)	3600	MPa	ISO 178
Flexural strength	170 / 115	MPa	ISO 178
Flexural strength (120°C)	95	MPa	ISO 178
Flexural strength (160°C)	85	MPa	ISO 178
Charpy impact strength (+23°C)	37 / 51	kJ/m²	ISO 179/1eU

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PROPERTIES	*TYPICAL DATA*	*UNIT*	*TEST METHOD*
Charpy notched impact strength (+23°C)	7.5 / –	kJ/m²	ISO 179/1eA
THERMAL PROPERTIES	***DRY / COND***		
Melting temperature (10°C/min)	295 / *	°C	ISO 11357-1/-3
Temp. of deflection under load (1.80 MPa)	276 / *	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	284 / *	°C	ISO 75-1/-2
Burning Behav. at 3.0 mm nom. thickn.	V-0 / *	class	IEC 60695-11-10
Thickness tested	3 / *	mm	IEC 60695-11-10
UL recognition	Yes / *	–	–
ELECTRICAL PROPERTIES	***DRY / COND***		
Electric strength	30 / –	kV/mm	IEC 60243-1
Comparative tracking index	500 / –	V	IEC 60112
Relative permittivity (1GHz)	3.5 / –	–	IEC 61189-2-721
OTHER PROPERTIES	***DRY / COND***		
Humidity absorption	2.8 / *	%	Sim. to ISO 62
Density	1370 / –	kg/m³	ISO 1183